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REMARKS

The present application has 23 claims pending. Reconsideration and allowance of the present 23 claims is respectfully requested at least for the following reasons.

35 USC § 103(a) Claims Rejection

The Examiner has objected to present claims 1 to 23 as being unpatentable over Graham U.S. Patent No. 5,697,067 in view of Waye et al. U.S. Patent No. 7,024,157 B2. The Examiner is respectfully requested to reconsider and withdraw this objection at least for the following reasons.

With respect to claim 1, it is noted that claim 1 recites "*at least two amplification units coupled to said transmission line at periodic locations for amplifying the first communication signal at the first frequency from previous amplification units in an upstream direction towards the first end, and said at least two amplification units having degradation detection units for detecting a degradation in the communication system between the at least two amplification units; and wherein upon detection of a degradation in the communication system between any two amplification units, the amplification units detecting the degradation change the frequency of the first communication signal along the radiating transmission line between the two amplification units having detected the degradation from the first frequency to a predetermined first fault frequency to facilitate overcoming the degradation in the communication system.*" [emphases added]

On page 3 of the Office Action, the Examiner states that the Graham reference "does not explicitly disclose said at least two amplification units having degradation detection units for detecting a degradation in the communication system between the at least two amplification units; and wherein upon detection of a degradation in the communication system between any two amplification units, the amplification units detecting the degradation change the frequency of the first communication signal along the radiating transmission line between the two amplification units having detected the degradation from the first frequency to a

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predetermined first fault frequency to facilitate overcoming the degradation in the communication system.

The Examiner has taken the position that U.S. Patent No. 7,024,157 to Wayne discloses this subject matter. In particular, the Examiner has referred to the regeneration amplifiers 110 in Wayne at column 6, lines 50 to 61 and the data processor element 140 and the tracking units 170. The Examiner is respectfully requested to reconsider and withdraw this objection at least for the following reasons.

It is respectfully submitted that in the Wayne reference, the regeneration amplifiers do not “**change** the frequency of the first communication system along the radiating transmission line between the two amplification units having detected the degradation from the first frequency to a predetermined first fault frequency to facilitate overcoming the degradation in the communication system”. Rather, the amplification units in Wayne simply disclose that the amplitude of the signal is enhanced, as one would expect, after an amplification. In fact, Wayne explicitly teaches that the frequency will remain the same after the amplification.

In this regard, reference is respectfully made to the following passage from column 8, lines 20 to 28 of Wayne:

“The regenerated wide band signals WDR should have the same characteristics as the wide band data signals WDs which entered the regeneration amplifier 110, but be at a higher power level. Accordingly, the symbol WDR will be used in FIG. 2 to identify the regenerated data signals WDR, but in FIGS. 1A and 1B, all of the wide band data signals are identified by reference numeral WDs reflecting that the regenerated and originally generated data signals WDR, WDS are substantially indistinguishable.” [emphases added]

Accordingly, it is clear that Wayne discloses that after the amplification, the regenerated wide band signals WDR have the same characteristics as the wide band data signals WDs which entered the regeneration amplifier 110, but at a higher power level. Therefore, Wayne clearly teaches away from the present disclosure, which states that after detecting a degradation, the frequency of the first communication signal will be changed along the radiating transmission line between the two amplification units having detected the degradation from the

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first frequency to a predetermined first fault frequency to facilitate overcoming the degradation in the communication system.

It is respectfully submitted that the present claims recite patentably distinguishable subject matter in view of Waye and Graham at least for this reason.

Furthermore, the Examiner has stated that the processors 140 correspond to the degradation detection units. With respect, the processors 140 have error detection and correction functions. This is stated, for instance, at the following passage at column 7, lines 41 to 57 of Waye:

“While the recovered data is stored in the data processor 140, error detection and correction functions may be performed on the recovered data by the data processors 140. The error detection and correction functions can be a standard type of function used to detect and, if possible, correct errors in the recovered data. In a preferred embodiment, the data processors 140 may retain the packets of data for one cycle in order to receive the immediately following packet of data. The error detection and correction functions can then be performed on the two packets of data, using standard error correction and detection functions.

If an error is detected in the recovered data which cannot be corrected, the processors 140 will send a signal to the system server 16 indicating that a packet of data has been received and an error that cannot be corrected has been detected. The system server 16 will then perform appropriate functions in order to have the data re-sent.” [emphases added]

Accordingly, it is respectfully submitted that the data processors 140 in Waye contain “error detection and correction functions” which can be of the “standard type of function used to detect and, if possible, correct errors and recover data”. Therefore, the data processors 140 in Waye do not correspond to the “degradation detection units for detecting a degradation in the communication system between the at least two amplification units”. Rather, the data processors 140 contain error detection and correction functions which can be a standard type of function used to detecting, if possible, correct errors and recover data.

Furthermore, if an error is detected in the recovered data which cannot be corrected, the processors 140 send a signal to the system server 16 indicating that a packet of data has been received and an error that cannot be corrected has been detected. The system

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server 16 will then perform appropriate functions “in order to have the data re-sent” [see column, lines 7, lines 52 to 57 of Waye]. Therefore, the processors 140, when they detect an error that cannot be corrected, send a signal to have the data re-sent. In direct contrast, the present claims recite that, upon “detection of a degradation in the communication system between any two amplification units, the amplification units detecting the degradation change of the frequency of the first communication signal along the radiating transmission line between the two amplification units having detected the degradation from the first frequency to a predetermined first fault frequency to facilitate overcoming a degradation in the communication system”.

Therefore, in Waye, the processors 140 not detect degradation in the communication system between the at least two amplification units, as recited in claim 1, but rather merely detect errors in the data. Furthermore, even when the processors 140 detect an error that cannot be corrected, the processors 140 in Waye ask for the data to be re-sent. This is in direct contrast to the subject matter recited in present claim 1 where upon detection of the degradation in the communication system between any two amplification units the amplification units change the frequency of the first communication signal from the first frequency to the first predetermined first fault frequency. The Waye reference simply does not teach, suggest or disclose this subject matter.

Furthermore, the disclosure in Waye would not work in the system of the present invention at least because, if there was a degradation in the system, the server 16 could not re-send the data which is the response to the detection of an error as disclosed in Waye. In other words, Waye addresses error correction in data received, while the present application addresses overcoming a degradation in the system by changing the frequency to a first fault frequency. Waye does not address nor disclose how to detect a degradation in the communication system, nor how to overcome a degradation by changing the frequency to a first fault frequency. In fact, Waye does not disclose a first fault frequency, but rather teaches away from the first fault frequency of the present invention by stating that all of the signals have the same characteristics, including the frequency. Therefore, Waye does not disclose a first fault frequency nor the advantages of having a first fault frequency, but rather teaches away from a first fault frequency.

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Therefore, for this reason also, it is respectfully submitted that present claim 1 recites patentably distinguishable subject matter in view of the Waye reference. Independent claims 16 and 20 also recite similar subject matter to present claim 1. In particular, present claim 16 recites “a degradation detection unit for detecting a degradation in a communication signal on a length of the transmission line at the upstream connection; wherein upon detection of a degradation in the length of the transmission line in the upstream connection, the amplification unit commences to amplify and transmit the first communication signal at a predetermined first fault frequency and upon no detection of a degradation in the length of the transmission line at the downstream connection, the amplification unit continues to receive the first communication signal at the downstream connection at the first frequency.” [emphases added]. Claim 20 similar recites the features of “detecting a degradation in the communication signal along a link of the radiation transmission line between any two amplification units coupled to the radiating transmission line; and at each of the two amplification units detecting a degradation in the communication system, altering a frequency of the communication signal along the length of the transmission line between the two amplification units having detected the degradation from a first frequency, used when no degradation is detected, to a predetermined first fault frequency different from the first frequency.” [emphasis added]. Therefore, it is respectfully submitted that the present independent claims 16 and 20 also recite patentably distinguishable subject matter in view of the Waye and Graham references.

As the remaining claims are directly or indirectly dependent from independent claims 1, 16 and 20, it is respectfully submitted that all of the present claims recite patentably distinguishable subject matter at least for the above reasons. Furthermore, the dependent claims recite additional aspects regarding the degradation units and the first fault frequency. Therefore, the dependent claims also recite patentably distinguishable subject matter in view of Waye and Graham at least because neither of these references teach, suggest or disclose a first fault frequency nor a detection unit as recited in the present claims.

Furthermore, it is respectfully submitted that the dependent claims also recite subject matter different from the prior art.

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CONCLUSION

If for any reason the Examiner is of the view that this application is not in a condition for allowance, the Examiner is requested to telephone the undersigned at (416) 961-5000 so that an interview or telephone conference may be arranged to expedite allowance of this case. Mr. Wayne, an inventor of this application, who is also an inventor on one of the cited references, may also attend on this interview.

It is hereby petitioned under 37 CFR 1-1336 that the response term of this application be extended, if necessary, to a date which would include the filing date of the present amendment and the Commissioner is hereby authorized to charge any necessary extension fee to deposit account no. 18-1350, under an order number corresponding to attorney docket number P24304.

Favourable consideration and disposition is respectfully requested.

Respectfully requested

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CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office Fax No. (571) 273-8300 on March 19, 2009


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